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ABSTRACT

The purpose of this study was to explore the interplay between young people's attitudes toward computer networks and Internet addiction. After analyzing questionnaire responses of an initial sample of 615 Taiwanese high school students, 78 subjects, viewed as possible Internet addicts, were selected for further explorations. It was found that subjects' attitudes toward computer networks could explain many aspects of Internet addiction. However, students' perceptions or behaviors on actual Internet usage are more important than their affective responses toward computer networks in predicting students' Internet addiction. (Author/MES)

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An Analysis of Attitudes toward Computer Networks and Internet Addiction

Abstract

The purpose of this study was to explore the interplay between young people's attitudes toward computer networks and Internet addiction. After analyzing questionnaire responses of an initial sample of 615 Taiwanese high school students, seventy-eight subjects, viewed as possible Internet addicts, were selected for further explorations. It is found that subjects' attitudes toward computer networks could explain many aspects of Internet addiction. However, students' perceptions or behaviors on actual Internet usage are more important than their affective responses toward computer networks in predicting students' Internet addiction.

Statement of the Problem

In recent two or three years, our lives are filled with diverse applications of computer networks. With the rapid growth and prevalence of computer network technology, people usually experience the benefits of computer networks in various aspects. For example, people could search information on the Internet and then acquire relevant information they need. Also, through computer networks, people can talk with others and purchase almost any kind of merchandise. Young people are generally viewed as the main population of Internet users. However, some recent studies (e.g., Brenner, 1996; Chou & Chou, in press) revealed that some young people exhibit addictive behaviors of using computer networks, called as "Internet addiction" by Chou and Chou. However, there was no prior related study on high school students. This study further considered young people's attitudes toward computer networks as an important variable contributing to their Internet addiction. Through analyzing the questionnaire responses of 78 Taiwanese high school students who likely showed Internet addiction, this study explored the relationships between students' attitudes toward computer networks and Internet addiction.

Methodology

Subjects

The initial sample of this study included six hundred and fifteen high schoolers having experiences of using Internet. The population was stratified into three demographic areas, Northern, Central and Southern Taiwan. These were asked to finish a series of questionnaire about attitudes toward computer networks and Internet addiction. Among these students, those having a score of 5 or higher on Young's (1996) questionnaire, a total of seventy-eight (75% of them are male), were the final subjects of this study. By Young's definition, these students were likely Internet addicts.

Instruments

To assess students' attitudes toward computer networks, this study mainly modified the computer attitude scale developed by Selwyn (1997) into a Computer Network Attitude Inventory (CNAI). The original CNAI included 32 Likert scale questions. Through factor analyses of 615 students' questionnaire responses (i.e., the initial sample), the final CNAI consisted of 18 questions, with the same subscales as proposed by Selwyn: (1). affective (5 items, α =.70), e.g., Computer networks make me feel uncomfortable (stated in a reverse manner), (2). perceived usefulness (5 items, α =.82), e.g., Computer networks can allow me to do more interesting and

imaginative work, (3) perceived control (5 items, α =.66), e.g., If I get problems using the computer networks, I can usually solve them, and (4) behavior (3 items, α =.49), e.g., I use computer networks regularly throughout school. The reliability coefficient for all questions of CNAI is .81, with accumulated variance of 54% explained. Students with better attitudes toward computer network (e.g., showing more confidence of using Internet) would have higher scores on CNAI.

Students' Internet addiction were assessed by using Internet Addiction Scale for high schoolers in Taiwan (IAST) developed by Lin and Tsai (1998). IAST includes 20 items with five subscales: 1. Compulsive behavior along with withdrawal, 2. Tolerance, 3. Related problem: resource management, 4. Related problem: family, school and health, and 5. Negation. Students having addictive behaviors of using Internet would have higher scores on IAST. The reliability for all questions is .85. IAST shows a high correlation with that measured by Young (1996) ($r = .62$, $p<.001$) and it provides better indictors about students' Internet addiction (see Lin & Tsai, 1998).

Results

By using students' attitude subscale scores on CNAI as predictors, this study employed a stepwise (forward) method to construct regression models to predict students' Internet addiction obtained from IAST. Table 1 presents the final

regression model in predicting students' responses on each subscale of IAST.

Table 1: The regression models of predicting students' Internet addiction by using attitudes toward computer networks as predictors

Internet addiction (outcome variables)	**Predictors**	β	**R**
Compulsive behavior along with withdrawal	Behavior	.434***	.434***
Tolerance	Perceived control	.277 *	.450***
	Perceived usefulness[1]	.263*	
Related problem: Resource management	Behavior	.526***	.526***
Related problem: Family, school and health	Perceived control	.247*	.247*
Negation	None		

*<.05, ***<.001

Note 1: The order of the predictors corresponds to that of a stepwise regression (forward).

The results indicated that students who more frequently used Internet (i.e., CNAI's behavior) tended to have more compulsive use of Internet, and they would feel depressed if cut back. Students perceiving that they could well control the Internet and those who highly valued its usefulness tended to claim that they needed more amount of time to stay on-line to achieve original satisfaction. Moreover, a heavier Internet usage (CNAI's behavior) may have caused subjects' problematic management on time and finance. Students who could more independently use computer networks without the assistance of others (CNAI's perceived control) tended to have more problematic responses toward family, school and health.

Conclusions

Through surveying 78 Internet addiction-like high schoolers, this study revealed that the extent of students' behavior and perceived control of using Internet could explain some aspects of their Internet addiction. Moreover, the more usefulness of computer networks they perceived could also contribute to their heavier Internet usage of achieving the satisfaction they got in the initial on-line experience. However, students' affective responses toward computer networks (e.g., the comfort of using Internet) may not be an important variable predicting students' Internet addiction. This suggests that students' perceptions or behaviors on actual operations of using Internet (e.g., behavior, perceived control and perhaps, perceived usefulness) are more substantial than their emotional responses toward Internet (e.g., affective) in predicting students' Internet addiction.

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